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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,338

05/05/2006

Wolfgang Pfeiffer

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NEW YORK, NY 10004

EXAMINER

ARCE, MARLON ALEXANDER

ART UNIT

PAPER NUMBER

3611

MAIL DATE

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01/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,338	Applicant(s) PFEIFFER ET AL.	
	Examiner MARLON A. ARCE	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks, filed 10/27/08, have been reviewed and the rejection based on Hommel (US 6208923) is going to be changed into a 35 U.S.C. 103 {{see changes to the rejection below}}. Examiner also likes to point out that Hommel's electrical units have to be able to operate independently because, each one of them are assigned to a different system (system A or B, Col 2 lines 37-67). Also; the rejection based on Hommel (US 6208923) in view of Higashi (US 6904346) is maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-16 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Hommel (US 6208923). Hommel discloses a steer by wire steering actuator comprising: two electrical units (14a,14b), two power supplies (7a,7b), one for each of the electrical units, a pair of relays (18a,18b), a couple of torque elements/processing units (6a,6b) that drive the electrical units through a pair of output stage units (12a,12b). Hommel fails to mention a fuse connected between the power supply unit and the electrical units. However, It would have been obvious for someone skilled in the art to know that the invention disclosed by Hommel would need an extensive or ordinary electrical circuit and, most if not all circuit need to have fuses in order to control the

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changes of current or in case a sudden jump of current that could damage internal expensive parts occurs. Regarding claim 16, Hommel further discloses a sensor (3) that communicates with the processing unit and monitors the steering device (1). Regarding claim 18, the sensor (3) is a wheel-torque control element.

4. Claims 13,17,19,20 and 22-24 rejected under 35 U.S.C. 103(a) as being unpatentable over Hommel (US 6208923) in view of Higashi (US 6904346). Hommel mentioned above fails to disclose a manual torque element for a steering handle. However; Higashi discloses a steering system for a motor vehicle comprising: a steering handle (30) and torque sensor (41), said torque sensor being connected to a controller (80) and driving the motors (51,52). It would have been obvious for someone skilled in the art at the time the invention was made to add a second sensor to sense the torque/position of the steering handle into Hommel's invention, in order to be able to have a complete steer-by-wire system that reads the torque of the steering wheel and of the steering rack. Regarding claim 22-24, the electrical units can be accommodated in a housing or two housings depending of the space available in the vehicle; for example: if space is not an issue, the housing can be big enough to accommodate both electrical units, or if the space is reduced, the electrical units can be split into two housing in order to make use of all the space available.

5. Claims 13-20 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rieth (DE 101 14 600) in view of Shimizu (US 2002/0166716). Rieth discloses a vehicle system and steering system comprising: two electrical units or second Torque control element (12,13), two power supply units (65,66); wherein, each

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of the power units being assigned to a electrical unit and, the power units are connected to the electrical units through extensive wiring circuitry (fig 2 and 3). Rieth fails to mention the fuse. However, Shimizu discloses a power steering apparatus with fuse connecting the power unit (BT) to the electrical unit (5). It would have been obvious for someone skilled in the art to know that in extensive electrical circuitry, a set of fuses are needed in order to be able to: stop a sudden jump in current and in order to protect highly sensible/expensive electrical systems (such as the electrical units). In this case, the fuses used by Shimizu can be placed in the extensive wiring shown in figures 2 and 3 in Rieth, right between each of the power supply units and the electrical units.

Examiner also likes to point out that it would be obvious for someone skilled in the art to know that in extensive circuitry, a great amount of fuses would be present in order to maintain the circuitry. Regarding claim 14 and 25, Rieth discloses a processing unit (46-49) and an output stage unit (57,58) within the electrical units. Regarding claim 16 and 27, the output stage unit (57,58) drive the an actuator (fig 2) and the processing unit receives a signal from the steering wheel or first torque control unit (1) through sensors (2,3). Regarding claim 22-24, the electrical units are located near the axle and it would be obvious that they should be placed in housings either separate or together in order to keep them from the elements. Regarding claim 30 and 33, see above specifically when claim 14-16 are discussed.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hommel (US 6208923) in view of Higashi (US 6904346) as applied to claim19 above, and further in view of Husain (US 2005/0082108). Hommel and Higashi fails to show a mechanical

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coupling of the steering handle to the steered wheels. However; Husain discloses a mechanical connection to a steer-by-wire vehicle in case the system fails (fig 1). It would be obvious for someone skilled in the art to have a mechanical connection in a steer-by-wire system, in order to be able to have a safety backup in case the electronic controlled steer-by-wire system fails.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARLON A. ARCE whose telephone number is (571)272-1341. The examiner can normally be reached on Mon-Fri 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Marlon Arce

1/12/09

MAA

/Paul N. Dickson/

Supervisory Patent Examiner, Art Unit 3611